WASTE MANAGEMENT

Volume 15, Number 1 1995

CONTENTS

W. A. Cawley	1	*Editorial*
		Original Contributions
K. M. Skarżyńska	3	Reuse of Coal Mining Wastes in Civil Engineering—Part 1: Properties of Minestone
A. Martinez C. D. Cooper C. A. Clausen C. Geiger	43	Kinetic Modeling of the H_2O_2 Enhanced Incineration of Heptane and Chlorobenzene
V. Dutré C. Vandecasteele	55	Solidification/Stabilization of Arsenic-containing Waste: Leach Tests and Behaviour of Arsenic in the Leachate
K. Periasamy C. Namasivayam	63	Removal of Nickel (II) From Aqueous Solution and Nickel Plating Industry Wastewater Using an Agricultural Waste: Peanut Hulls
T. M. Aminabhavi R. S. Munnolli J. D. Ortego	69	Interactions of Chlorosulfonated Polyethylene Geomembranes With Aliphatic Esters: Sorption and Diffusion Phenomena
		Book Reviews
S. Tompson	79	*The VNR Dictionary of Environmental Health and Safety*
W. D. Constant	80	*Encyclopedia of Environmental Control Technology, Volume 5, Waste Minimization and Recycling*

Volume 15, Number 2 1995

CONTENTS

A. M. Ford	81	*Editorial*
		Original Contributions
K. M. Skarżyńska	83	Reuse of Coal Mining Wastes in Civil Engineering—Part 2: Utilization of Minestone
M. Atkins F. P. Glasser J. J. Jack	127	Zeolite P in Cements: Its Potential for Immobilizing Toxic and Radioactive Waste Species

M. Yousuf **A. Mollah** **R. K. Vempati** **T.-C. Lin** **D. L. Cocke**	137	**The Interfacial Chemistry of Solidification/Stabilization of Metals in Cement and Pozzolanic Material Systems**
P. K. Sinha **P. K. Panicker** **R. V. Amalraj** **V. Krishnasamy**	149	**Treatment of Radioactive Liquid Waste Containing Caesium by Indigenously Available Synthetic Zeolites: A Comparative Study**
C. T. Chen **J. L. Graham** **B. Dellinger**	159	**Photothermal Destruction of the Vapor of Organic Compounds**
M. L. Allan **L. E. Kukacka**	171	**Permeability of Microcracked Fibre-Reinforced Containment Barriers**
		Book Review
K. R. Comey	179	***Toxic Air Pollution Handbook***

Volume 15, Number 3 1995

CONTENTS

A. M. Ford	181	*Editorial*
		Original Contributions
Z. Zhang **R. W. Pike** **T. A. Hertwig**	183	Source Reduction from Chemical Plants Using On-Line Optimization
M. L. Allan **L. E. Kukacka**	193	Blast Furnace Slag-Modified Grouts for *In Situ* Stabilization of Chromium-Contaminated Soil
S. Kamenev **J. Kallas** **R. Munter** **M. Trapido**	203	Chemical Oxidation of Biologically Treated Phenolic Effluents
L.-Y. Chang	209	A Waste Minimization Study of a Chelated Copper Complex in Wastewater—Treatability and Process Analysis
N. E. Kinner **W. B. Lyons** **P. H. Rice** **D. B. Durling** **D. L. Gress**	221	Geochemistry and Metals Concentrations in Marine Sediments Exposed to Solidified/Stabilized Municipal Solid Waste Incinerator Ash

Z. Mao **J. C. Demirgian**	233	Development of Calibration Standards for Fourier Transform Infrared Spectrometer in Continuous Monitoring of Incinerator Emissions
L. P. Moroni **F. P. Glasser**	243	Reactions Between Cement Components and U(VI) Oxide

Volume 15, Number 4 1995

CONTENTS

W. A. Cawley	255	*Editorial*
		Original Contributions
S. Cheng **H. Fan** **N. Gogineni** **B. Jacobs** **J. W. Harrell** **I. A. Jefcoat** **A. M. Lane** **D. E. Nikles**	257	Pollution Prevention in the Magnetic Tape Industry: Waterborne Coating Formulations for Video Tape Manufacture
C. Shi **J. A. Stegemann** **R. J. Caldwell**	265	Quality Analysis/Quality Control Tests for Field Stabilization/Solidification—1. Dry Cementing Additives
S. Ali Khan **Riaz-ur-Rehman** **M. Ali Khan**	271	Adsorption of Chromium(III), Chromium(VI) and Silver(I) on Bentonite
J. Kil Park **K. Jai Lee**	283	Separation of Boric Acid in Liquid Waste with Anion Exchange Membrane Contactor
P. V. Brady **M. W. Kozak**	293	Geochemical Engineering of Low Level Radioactive Waste in Cementitious Environments
W. J. Catallo **T. Junk**	303	Sonochemical Dechlorination of Hazardous Wastes in Aqueous Systems
		Book Review
A. Rosendale	311	*The Basic Guide to Environmental Compliance: VNR Series*
	312	*Erratum*

Volume 15, Numbers 5/6 1995

CONTENTS

W. A. Cawley	313	*Editorial*

Original Contributions

R. Lingam M. Yavuz Corapcioglu	315	Two-dimensional Analytical Solutions for a Two-pump Free Product Recovery System
T. C. Ho H. T. Lee C. C. Shiao J. R. Hopper W. D. Bostick	325	Metal Behavior During Fluidized Bed Thermal Treatment of soil
K. Y. Li Y. Zhang T. Xu	335	Bioremediation of Oil-contaminated Soil—a Rate Model
G. D. Silcox F. S. Larsen W. D. Owens M. Choroszy-Marshall	339	Kinetics of Hydrocarbon and Pesticide Removal from Clay Soils During Thermal Treatment in a Pilot-scale Rotary Kiln
D. D. Truax R. Britto J. H. Sherrard	351	Bench-scale Studies of Reactor-based Treatment of Fuel-contaminated Soils
J. R. Conner	359	Recent Findings on Immobilization of Organics as Measured by Total Constiutuent Analysis
P. F. Churchill R. J. Dudley S. A. Churchill	371	Surfactant-enhanced Bioremediation
J. F. Campagnolo A. Akgerman	379	Modeling of Soil Vapor Extraction (SVE) Systems—I
J. F. Campagnolo A. Akgerman	391	Modeling of Soil Vapor Extraction (SVE) Systems—II. Biodegradation Aspects of Soil Vapor Extraction
C. Vipulanandan	399	Effect of Clays and Cement on the Solidification/Stabilization of Phenol-contaminated Soils
C. E. George D. E. Azwell P. A. Adams G. V. N. Rao D. E. Averett	407	Evaluation of Steam as a Sweep Gas in Low Temperature Thermal Desorption Processes Used for Contaminated Soil Clean Up
J. G. Shah V. A. Patki K. Raj U. R. K. Rao	417	DTA, Powder XRD and SEM Study of Manganese-containing Borate Glasses
M. Liu D. Roy G. Wang	423	Reactions and Transport Modeling of Surfactant and Anthracene in the Soil Flushing Process
R. K. Vempati M. Y. A. Mollah A. K. Chinthala D. L. Cocke J. H. Beeghly	433	Solidification/Stabilization of Toxic Metal Wastes Using Coke and Coal Combustion By-products

S.-L. Lin
J. S. Lai
E. S. K. Chian — 441 — Modifications of Sulfur Polymer Cement (SPC) Stabilization and Solidification (S/S) Process

C. L. Kim
C. H. Cho
H. J. Choi — 449 — Equilibrium Concentration and Diffusion Controlled Leaching Model for Cement-based Waste Forms

Technical Note

B. B. Brenden
H. S. Dhingra — 457 — Optical Imaging Systems for Ceramic Melters

---

Volume 15, Number 7 1995

CONTENTS

W. A. Cawley — 461 — *Editorial*

Original Contributions

M. Liu
D. Roy — 463 — Surfactant-induced Interactions and Hydraulic Conductivity Changes in Soil

T. M. Ahn
P. Soo — 471 — Corrosion of Low-carbon Cast Steel in Concentrated Synthetic Groundwater at 80 to 150°C

W. H. Smith
G. M. Purdy — 477 — Chromium in Aqueous Nitrate Plutonium Process Streams: Corrosion of 316 Stainless Steel and Chromium Speciation

M. Fuhrmann
D. Aloysius
H. Zhou — 485 — Permeable, Subsurface Sorbent Barrier for ^{90}Sr: Laboratory Studies of Natural and Synthetic Materials

Y. Hatano
N. Hatano
A. Suzuki — 495 — Dynamic Analysis of Nuclide Diffusion with Illitization of the Buffer Material

S. V. S. Rao
K. B. Lal
P. K. Panicker
S. V. Narasimham — 501 — Fixation of Copper Ferrocyanide Cake in the Urea–Formaldehyde Matrix

C. Shi
J. A. Stegemann
R. J. Caldwell — 507 — Quality Analysis/Quality Control Tests for Field Stabilization/Solidification—2. Untreated Waste, Sodium Silicate Solution and Solidified Waste

Technical Note

G. C. Okpokwasili
C. Nnubia — 515 — Effects of Oil Spill Dispersants and Drilling Fluids on Substrate Specificity of Marine Bacteria

T. J. Pinson — 521 — *Computer Column*

M. A. S. Guth
J. W. Crutcher — 531 — *Computer Column*

Volume 15, Number 8 1995

CONTENTS

	539	*Publisher's Note*
W. A. Cawley	541	*Editorial*
		Original Contributions
L. D. Duke Y. J. Chung	543	Industrial Storm Water Pollution Prevention: Effectiveness and Limitations of Source Controls in the Transportation Industry
O. Brotzen	559	Public Acceptance and Real Testing of a Nuclear Repository
Z. Mao J. Demirgian A. Mathew R. Hyre	567	Use of Fourier Transform Infrared Spectrometry as a Continuous Emission Monitor
P. P. E. Carriere F. A. Mesania	579	Enhanced Biodegradation of Creosote-contaminated Soil
J. D. Englehardt Chengjun Peng	585	Pozzolanic Filtration/Solidification of Radionuclides in Nuclear Reactor Cooling Water
M. J. Song S. H. Son C. H. Jang	593	Tritium Inventory Prediction in a CANDU Plant
P. M. Kearl N. Korte J. L. Zutman M. Stites	599	Using an Integrated Approach for Quantifying VOC Source Areas for Site Remediation
J. Banaee R. A. Larson	609	Co-combustion of a Chlorinated Polymer with High-sulfur Coals and Other Polymeric Materials: Inhibition of the Formation of Chlorinated Benzenes
W. Z. Tang C. P. Huang	615	The Effect of Chlorine Position of Chlorinated Phenols on their Dechlorination Kinetics by Fenton's Reagent
G. R. Alther	623	Organically Modified Clay Removes Oil from Water
W. M. Nutt R. N. Hill D. B. Bullen	629	Performance Assessment Modeling of Pyrometallurgical Process Wasteforms
S. Ali Khan Riaz-ur-Rehman M. Ali Khan	641	Sorption of Strontium on Bentonite
		Technical Notes
M.-L. de Casabianca T. Laugier F. Posada	651	Petroliferous Wastewaters Treatment with Water Hyacinths (Raffinerie de Provence, France): Experimental Statement
M. Kaźmierczak Z. Gorzka A. Michalska-Jednoralska	657	Cost Analysis of Treatment of Exhausted Cooling-oil Emulsions

M. Ochsner
C. Chess
M. Greenberg
663 Pollution Prevention at the 3M Corporation: Case Study Insights into Organizational Incentives, Resources, and Strategies

Book Review

D. R. Reinhart
673 *Landfill Waste Pollution and Control*

I Volume Contents and Author Index for Volume 15, 1995